

Network Requirements

Connection to the Internet

A stable, high-speed (wired or wireless) Internet connection is required for online testing. The response time for each assessment depends on the reliability and speed of your school's network. You will need to verify your network settings.


The Local Caching Software (LCS) is an optional tool that can be used to help reduce networking issues.

Bandwidth

Bandwidth is the measure of the capacity of a network. Utilized bandwidth measures the amount of data traveling across the network at a given point in time. Available bandwidth is affected by Local School Network traffic and your Internet connection. Regardless of hardware or network topology, the LAN should be analyzed to determine the potential for traffic bottlenecks.

Network Diagnostic Tools

Below is the tool that can be used to analyze your bandwidth. Run the System Check Test from each connection at different times to assess the available bandwidth and network traffic. Your school's bandwidth will vary with usage and traffic levels. For example, the administrative office could be uploading payroll.



System Check

Check your system to see its level of readiness for testing implementation. To determine your bandwidth, select a test from the drop-down list and enter the maximum number of students likely to test at one time, then click Run Test.

Your Operating System: Microsoft Windows 7 Your Browser Version: Firefox v31

System Check Test

To determine your bandwidth, select a test from the drop-down list and enter the maximum number of students likely to test at one time, then click Run Test.

Select Test:

Mathematics

Enter # simultaneous testers:

RUN TEST

School Capacity Calculator

Use this calculator tool to estimate a school or test center's capacity to conduct online testing. Choose the option you would like to calculate below.

Select Calculation Type

Maximum Student Capacity

of Student Administrations

of Test Sessions Available per Day

of Days Allowed for Testing

CALCULATE

The Maximum Student Capacity is:

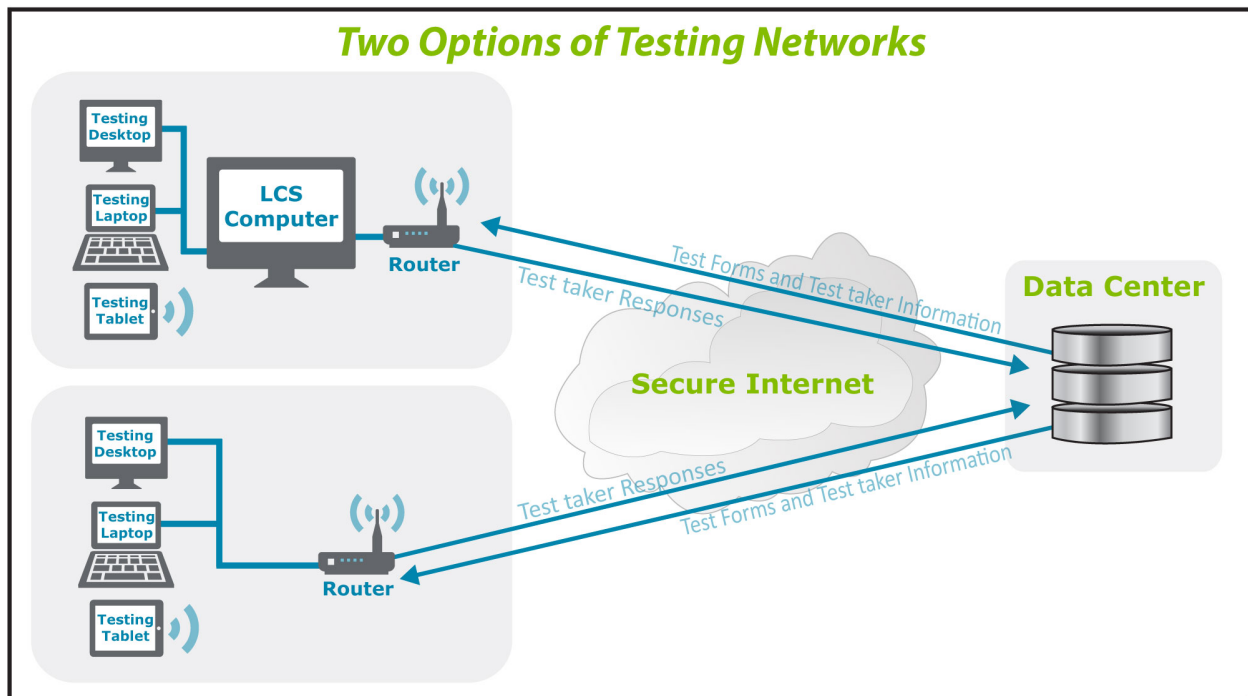
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Local Caching Software

Should your diagnostic tests determine that your systems have: low reliability of Internet connectivity, low bandwidth, or a high number of simultaneous testers; a helpful tool that can be used to reduce those bandwidth bottlenecks is the Local Caching Software. The benefits of using the LCS are:

- Students can continue testing in the event of connectivity interruptions
- Automatic caching (and purging) of test data
- Automatic uploading of test responses
- Test responses are securely persisted
- LCS Monitoring Tool
- Easy installation and maintenance

Below is a diagram showing the different ways your school can connect to the Internet.



Network Requirements

Firewalls and Filters

Ports and Protocols

All communication with the network takes place over the following Internet port/protocol combinations. Please ensure that the following ports are open for these systems.

Port/Protocol	Purpose
80/tcp	HTTP (initial connection only)
443/tcp	HTTPS (secure connection)

MIME Types

Allow downloading and uploading of binary data and these MIME types:

- application/octet-stream
- text/html
- multipart/form-data
- text/xml (LCS only)

URLs

Allow the URLs listed below to be accessed through the firewall:

- http(s)://*.caltesting.org
- http(s)://*.caltesting.org
- http://*.caltesting.org



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When to install the LCS

The LCS will be available for download in time for your preparations listed on the Technology Readiness Checklist. We recommend installing at least a week prior to testing to allow for configuration and testing. The LCS can be installed at any time before testing begins should your school's network conditions change.

LCS Requirements for Computers	
Operating System	Minimum Requirements
Windows XP (service Pack 3), Vista, 7, 8.0, 8.1 Server 2003 and 2008	Pentium 4 Processor and above 512 MB RAM 200 MB hard drive free space
Mac OS X 10.5 to 10.9	Intel x86 Processor 512 MB RAM 200 MB hard drive free space
Linux Ubuntu 10.04, 12.04 and 14.04	256 MB RAM 200 MB hard drive free space